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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,792	01/10/2001	Seiji Umemoto	Q62563	6553

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EXAMINER

AMARI, ALESSANDRO V

ART UNIT PAPER NUMBER

2872

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/756,792

Applicant(s)

UMEMOTO ET AL.

Examiner

Alessandro V. Amari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,6-29 is/are allowed.
- 6) ☒ Claim(s) 1 and 3-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3-4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al U.S. Patent 5,828,488 in view of Sanelle et al U.S. Patent 6,181,394.

In regard to claim 1, Ouderkirk et al teaches (see Figure 13) an optical path changing polarizer comprising a polarizer (116) and a repetitive prismatic structure (113) provided on the other side of said polarizer, said repetitive prismatic structure including optical path changing slopes aligned in a substantially constant direction so as to be inclined at an inclination angle in a range of from 35 to 48 degrees with respect to a plane of said polarizer as shown in Figure 13.

However, Ouderkirk et al does not teach an adhesive layer disposed on one side of said polarizer, said adhesive layer having a refractive index different by 0.1 or less from a refractive index of a surface layer of said one side of said polarizer.

Sanelle et al does teach an adhesive layer disposed on one side of said polarizer, said adhesive layer having a refractive index different by 0.1 or less from a refractive index of a surface layer of said one side of said polarizer as described in column 6, lines 24-34.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an adhesive layer as taught by Sanelle et al in the polarizer of Ouderkirk et al in order to eliminate reflection of light off the various elements of the display and improve brightness of the display.

Regarding claim 3, Ouderkirk et al teaches that an inclination angle of each of said optical path changing slopes with respect to said polarizer plane is in a range of from 38 to 45 degrees as shown in Figure 13.

Regarding claim 4, Ouderkirk et al teaches that said optical path changing slopes are formed into a structure of grooves each substantially shaped like an isosceles triangle or any other triangle in section as shown in Figure 13.

3. Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al U.S. Patent 5,828,488 in view of Sanelle et al U.S. Patent 6,181,394 further in view of Hira U.S. Patent U.S. Patent 5,961,198.

Regarding claim 5, the Ouderkirk et al in view of Sanelle teaches the invention as set forth above but does not teach optical path changing slopes are formed into a structure of grooves or protrusions each substantially shaped like a tetragon or a pentagon in section. Hira et al. does teach optical path changing slopes are formed into a structure of grooves or protrusions each substantially shaped like a tetragon or a pentagon in section as shown in Figures 20(a), 20(c) and 21(a)-21(c). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ouderkirk et al in view of Sanelle utilizing the shapes as taught by Hira et al. in order to increase luminance.

Allowable Subject Matter

4. Claims 2 and 6-29 are allowed as described in the previous office action.

Response to Arguments

5. Applicant's arguments filed 19 November 2003 have been fully considered but they are not persuasive.

The Applicant argues that the secondary reference, Sanelle et al while teaching an index matched adhesive on both sides of the polarizer, has no teaching of a repetitive prismatic structure on the opposite side of the polarizer or anywhere else on Sanelle et al and that Sanelle et al is not concerned with redirecting light, as in the claimed invention and in the primary reference, Ouderkirk et al.

In response to this argument, the Examiner would like to point out that it is the combination of Ouderkirk et al in view of Sanelle et al which provides the teaching of an optical path changing polarizer comprising a polarizer (Ouderkirk et al), a repetitive prismatic structure on a side of the polarizer (Ouderkirk et al) and an index matched adhesive (Sanelle et al) and it is Ouderkirk that is concerned with redirecting light. The Applicant is reminded that one cannot show nonobviousness by attacking references individually (in this case, Sanelle et al) where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Applicant further argues that in Ouderkirk et al, the polarizer is illustrated in Figure 13 with a space between the polarizer body 116 and a crystal matrix 147 in the direction of the observer. Similarly, the opposite side of the polarizer, the element 113

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with the structure surface 112 is separated by an air space. Furthermore, a similar space is described as a "gap" 171 with respect to the structure of Figure 10. Applicants also noted that the structure in Figure 14 indicates attaching two films by heat lamination or casting and curing the structured material. Thus, the applicants respectfully submit that the structure does not contemplate use of adhesives.

In response to this argument, while it appears that Figure 13 shows a space between the polarizer and the crystal matrix, the Examiner would like to point out that Figure 13 is a schematic cross-section of the display (see column 2, lines 32-33) and thus the "space" shown is simply for illustrative purposes and not necessarily indicative of an actual spacing or gap. Furthermore, there is no indication in the description of Figure 13 that the elements are separated by air space. While it is true a similar space is referred to as a "gap" in Figure 10, it should be noted that this figure is a schematic cross section of another embodiment of an optical display and not the embodiment cited by the Examiner, i.e., Figure 13 in the rejection. While, the description of Figure 14 does mention use of heat lamination or casting and curing, it should be noted that Figure 14 is a completely different embodiment using a layered film structure and not the embodiment cited by the Examiner, i.e., Figure 13 in the rejection. The description of Ouderkirk does not rule out or specifically prohibit the use of adhesives. Furthermore, Sanelle et al, the secondary reference in the combination teaches that the use of optically matched adhesives is well known in the art.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (571) 272-2306. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ava *ay*
06 February 2004


MARK A. ROBINSON
PRIMARY EXAMINER